AGENDA
CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE (CTCDC)
September 24, 2003 MEETING
1727. 30th Street (Room FM 3), Sacramento, CA 95816
TIME 9:00 AM

ORGANIZATION ITEMS

1. **Introduction**
2. **Approval of Minutes (June 5, 2003 Meeting)**
3. **Public Comments**
   At this time, members of the public may comment on any item not appearing on the agenda. Matters presented under this item cannot be discussed or acted upon by the Committee at this time. For items appearing on the agenda, the public is invited to make comments at the time the item is considered by the Committee. Any person addressing the Committee will be limited to a maximum of five (5) minutes so that all interested parties have an opportunity to speak. When addressing Committee, please state your name, address, and business or organization you are representing for the record.

AGENDA ITEMS

4. **Public Hearing**
   Prior to adopting rules and regulations prescribing uniform standards and specifications for all official traffic control devices placed pursuant to Section 21400 of the California Vehicle Code (CVC), the Department of Transportation is required to consult with local agencies and hold public hearings.

01-12	BlinkerStop Sign	(Continued) (Meis)
03-12	Proposal to Revise the Existing 55 Maximum Speed Limit R6-1 Sign	(Introduction) (Meis)
02-9	Mandatory Requirement of Accessible Pedestrian Signals	(Continued) (Larsen, Babico)

5. **Request for Experimentation**

03-13	Variable Speed Limit Sign (Experiment Request by the City of Campbell)	(Introduction) (Borstel)
03-14	Exist Numbering on Signalized Intersections (Experiment Request by the CVAG)	(Introduction) (Babico)
03-15	Radar Speed Sign (Experiment Request by the City of Freemont)	(Introduction) (Borstel)

6. Information Items

00-1	Bicycle Pavement Markings	(Continued) (Tanda)(Borstel)
99-11	MUTCD Adoption By Caltrans (Update by Caltrans)	(Continued) (Meis)

7. Tabled Items

02-16	Traffic Signal Warrants 1 & 2 (Footnotes were not included in the 1996 Publication)	(Continued) (Babico)

8. Next Meeting

9. Adjourn

ITEM UNDER EXPERIMENTATION

99-10 TACTILE PEDESTRIAN INDICATORS (Folkers) (Fisher)
(Experiment Agency-The City of Los Angeles)
Status: No update received.

99-12 SPEED STRIPING FOR SMART CROSSWALKS (Meis)
(Experiment Agency-Caltrans D7)
Status: No update

99-13 ILLUMINATED PAVEMENT MARKERS ON MEDIAN BARRIERS (Meis)
(Experiment Agency-Caltrans D7)
Status: The project has not been funded yet.

00-1 BICYCLE PAVEMENT MARKING (Banks)
(Experiment Agency-City of San Francisco)
Status: Committee will receive update during the meeting.

00-6 PEDESTRIAN COUNTDOWN SIGNAL HEADS (Banks)
(Experiment Agency-City of San Francisco)
Status: No further update, the interim report was submitted during the 01/31/02 meeting.

00-8 PEDESTRIAN COUNTDOWN SIGNAL HEAD (Tanda)
(Experiment Agency-City of San Jose)
Status: The City of San Jose has submitted the final study report during the May 2002 meeting. The Committee allowed continues use of the devices until to reach a final decision.

01-3 PEDESTRIAN COUNTDOWN SIGNAL HEADS (Fisher)
(Citywide Experiment request by the City of Fountain Valley)
Status: The City has submitted their final report to the Committee and has received approval to expand the experimentation as a citywide.

01-4 TACTILE PEDESTRIAN INDICATORE WITH AUDIBLE INFORMATION (Tanda)
(Experiment request by the City of Santa Cruz)
Status: No update.

01-7 PEDESTRIAN COUNTDOWN SIGNAL HEAD (Tanda)
(Experiment Agency-City of Oakland)
Status: The city has received approval from the FHWA and working to acquire funds in the FY 2002-03 budget.

01-9 IN-ROADWAY WARNING LIGHTS AT R/R CROSSINGS (Meis)
(Experiment requests by CPUC in cooperation Kern Co. & City of Fresno)
Status: CPUC is in process to hire consultant firm to conduct a study.

02-2 PEDESTRIAN COUNTDOWN SIGNAL HEAD (Tanda)
(Experiment Agency-City of Berkeley)
Status: No update.

02-4 PEDESTRIAN COUNTDOWN SIGNAL HEADS (Larsen)
(Experiment request by the County of San Luis Obispo)
Status: No update

02-11 Speed Feedback (Radar Speed) Sign (Fisher)
(Experimentation Agency – City of Garden Grove)
Status: The City has submitted the preliminary report

02-14 Speed Feedback (Radar Speed) Sign (Mansourian)
(Experimentation Agency – County of Mendocino)

02-15 Radar Guided Dynamic Curve Warning System (Meis)
(Experimentation Agency – Caltrans D5)

03-1 Speed Feedback (Radar Speed) Sign (Fisher)
(Experimentation Agency – City of Whittier)

03-4 Radar Speed Sign (Borstel)
(Experiment Agency – City of Vacaville)

03-5 Radar Speed Sign (Borstel)
(Experiment Agency – City of San Mateo

03-6 Radar Speed Sign (Borstel)
(Experiment Agency – City of San Jose)

STATUS OF CALTRANS ACTION ON PAST ITEMS

Item 93-18 CROSSWALKS, SEQUENTIAL LIGHTING (In-Roadway Warning Lights (IRWL) at Crosswalks)
Caltrans developing Standard Special Provisions (SSP) for the IRWLs

Item 99-3 AUDIBLE PEDESTRIAN SIGNAL POLICY
Caltrans will work with the CTCDC, the California Council of the Blind (CCB) and with individuals who are interested in this item to resolve along with the Agenda Item 01-5, "Accessible Pedestrian Signals."

Item 01-1 U-TURN SIGNAL HEADS INDICATOR
Caltrans will develop appropriate standards to ensure visibility and make the U-turn signal head indicator an official traffic control device by inclusion in the Caltrans Traffic manual.

Item 01-6 SUPPLEMENT SIGNS ON CHANNELIZERS
Caltrans will work with the Committee on this item.

Item 00-4 USE OF RAISED PAVEMENT MARKERS IN TRANSVERSE PATTERN
Caltrans will take appropriate action on the recommendation made by the Committee.

Item 01-5 ACCESSIBLE PEDESTRIAN SIGNALS
Caltrans will take appropriate action to adopt the MUTCD verbiage into the Traffic Manual.

Item 02-3 RIGHT EDGELINE
Caltrans will take appropriate action on the recommendation made by the Committee.

01-12 BlinkerStop Sign

1984 San Luis Drive, San Luis Obispo, CA 93401
Tel: (805) 541-5475, Fax: (805) 541-9103, email:
dale@newlite.com

August 15, 2003

Mr. Devinder Singh, Secretary
California Traffic Control Devices Committee
CalTrans Traffic Operations, MS 36, Room 4231
1120 "N" Street
Sacramento, CA 95814 Tel: (916) 654-4715, Fax: (916) 653-3055

Re: Request for Action Item on the CTCDC Agenda

Dear Devinder,

Per our earlier email message, this is to request an Action Item to be placed on the agenda for the upcoming CTCDC meeting, September 24, in Sacramento at the CalTrans office located at 1727 30th Street, starting about 9:00 AM.

The Action Item could be entitled "Conditional BlinkerStop Approval". The reasons for this request are (a) expectation that the FHWA, in its upcoming revision of the MUTCD expected in October, 2003, will authorize the use of flashing LEDs on conventional traffic signs, and (b) based on about 2 years of experimentation with BlinkerStop signs in California, there have been no negative comments from 15 participating agencies, with the only reported problem being theft or vandalism, which has been largely resolved using metal posts with breakaway bases. Please see the attached BlinkerStop Installation Sites.

As you know, we received early comments from Mr. Jim Larson about the red flashing LEDs on the original BlinkerStop "not being bright enough in full sunlight". This concern has largely been resolved with TAPCO's new "Daylight Visible" LEDs, which are currently being tested on BlinkerStop signs in several California locations. Please see the attached list of BlinkerStop Sign Installation Sites. We also attach an email we recently received from Mr. Jerry Graham, Traffic Crew Supervisor in San Luis Obispo County, who likes the visibility of the new "Daylight Visible" LEDs.

We would propose the CTCDC approve an Action Item that states "Subject to CalTrans verification that use of LEDs on traffic signs has been authorized by the FHWA in its upcoming revision to the MUTCD, the use of red flashing LEDs on stop signs, or other FHWA-approved uses, is also authorized for use in California."

Sincerely,

Dale Jones
Co-Owner

Attachment(s)
Cc: Mr. Rick Bergholz
TAPCO, Inc.
800 Wall Street
Elm Grove, WI 53122
Tel: 800-236-0112
Cc: Mr. Jerry Williams, BlinkerStop LLC

BlinkerStop Sign Installation Sites

Item 01-12, Statewide Experimentation Program

September, 2001 to Present

- **15 Participating Agencies**
- **21 High Accident Site Locations**
- **32 Solar LED BlinkerStop Signs Have Been Installed**
- **All Thefts Happened with LED Signs on Wooden Posts**
- **New "Daylight Visible" LED Signs New Installed at 2 Sites**
- **No Thefts with 4-in. Metal Posts on Breakaway Bases**

Participating Agency	Install Date	Number of Signs and Intersections	Time Since Installation	Site Location Selection Criteria
#1--CalTrans District 1	Feb-2002	2 signs @ 2 sites	18 Months	Eureka Safety Corridor
#2--CalTrans District 2	Dec-2001	1 sign @ 1 site	Stolen @ 2 Mos.	High Incident Site
#3--CalTrans District 3	Feb-2001	2 signs @ 1 site	Stolen @ 2 Mos.	High Incident Site
#4--CalTrans District 4	Jan-2002	2 signs @ 1 site	Stolen @ 2 Mos.	17 Accidents in 5 Yrs
#5--CalTrans District 6	Oct-2001	1 sign @ 1 site	13 Months	High Incident Site
#6--CalTrans District 7	Mar-2002	3 signs @ 1 site	Stolen @ 1 Mo.	High Incident Site
#7--CalTrans District 8	Jan-2001	4 signs @ 2 sites	Stolen @ 2 Mos.	High Incident Sites
#8--CalTrans District 9	Dec-2001	6 signs @ 3 sites	21 Months	11 Accidents in 4 Yrs
#9--CalTrans District 11	Aug-2002	1 sign @ 1 site	13 Months	5 Accidents in 3 Yrs
#10--Tulare County	Oct-2001	1 sign @ 1 site	23 Months	High Incident Site
#11--Marin County	Jan-2002	1 sign @ 1 site	Stolen @ 2 Mos.	High Incident Site
#12-San Luis Obispo County	Jun-2003	3 signs @ 2 sites	2 Months	High Incident Sites
#13-City of Palm Springs	Dec-2001	1 sign @ 1 site	21 Months	14 Accidents in 10 Yrs
#14--City of Dinuba	Mar-2002	2 signs @ 2 site	17 Months	High Incident Sites
#15--City of Salinas	Various	2 signs, multi-sites	Various	New Sign Installations

TAPCO

TRAFFIC & PARKING CONTROL CO., INC.

----- Message from jgraham@co.slo.ca.us on Wed, 13 Aug 2003 13:41:06 -0700 -----

To: dale@newlite.com

Subject: BlinkerStop

As you stated in your e-mail, it is too early to evaluate BlinkerStop in regard to accident prevention. However, as a tool to warn traffic, I'm very satisfied. I live in the area of the Nipomo installation and as such see it almost every day. I'm always impressed by how visible it is, even during daylight.

During installation Gordon and our crew identified a few minor installation problems. We were able to work them out to everyone's satisfaction. Gordon stated, he would take back with him notes of our minor problems and work them out with the manufacturing people. Initially I had misgivings about BlinkerStop being a attractive target to theft. As yet that has not been an issue.

As a Traffic Crew Supervisor, I would give BlinkerStop two thumbs up. At this point I'm very satisfied with your product and may purchase additional units in the future.

Federal Register May 21, 2002

12. In Section 2A.08 Retroreflectivity and Illumination, the FHWA proposes clarifying Table 2A–1 by replacing "Patterns of incandescent light bulbs" with "Incandescent light bulbs" and by adding "Light Emitting Diodes (LEDs)" to the listed Means of Illumination under Other Devices to reflect current technology.

Additionally, the FHWA proposes adding a new SUPPORT statement at the end of the section referencing information contained in Section 2A.22 on the use of retroreflective material on the sign support.

Table from MUTCD 2000

Table 2A-1. Illumination of Sign Elements

Means of Illumination	Sign Element to be Illuminated
Light behind the sign face	• Symbol or message • Background • Symbol, message, and background (through a translucent material)
Attached or independently-mounted light source designed to direct essentially uniform illumination onto the sign face	• Entire sign face
Other devices, or treatments that highlight the sign shape, color, or message at night: Luminous tubing Fiber optics (shaped to the lettering or symbol) Patterns of incandescent light bulbs Luminescent panels	• Symbol or message • Entire sign face

03-12 Proposal to Revise the Existing 55 Maximum Speed Limit R6-1 Sign

Existing Single Sign

R6-1 (48” x 60”)

Proposed 2 Separate Signs

R6-3 (48” x 60”)

R6-4 (48” x 60”)

EXISITING

POLICY: R6-1

The AUTOS WITH TRAILERS, TRUCKS - 55 MAXIMUM sign (R6-1) shall be placed in designated highway sections where the maximum speed in excess of 55 mph is permitted. The R6-1 sign shall be installed approximately 750 feet following each SPEED LIMIT ____ sign (R2) or MAXIMUM SPEED ____ sign (R6) in the designated sections. See CVC Section 22406.

PROPOSED

POLICY: R6-3

The TRUCKS, 3 AXLES OR MORE 55 MAXIMUM sign (R6-3) shall be placed in designated highway sections where the maximum speed in excess of 55 mph is permitted. The R6-3 sign shall be installed approximately 750 feet following each SPEED LIMIT ___ sign (R2) or MAXIMUM SPEED ___ sign (R6) in the designated sections. See CVC Section 22406.

POLICY: R6-4

The ALL VEHICLES WHEN TOWING 55 MAXIMUM sign (R6-4) shall be placed in designated highway sections where the maximum speed in excess of 55 mph is permitted. The R6-4 sign shall be installed approximately 750 feet following each TRUCKS 3 AXLE OR MORE 55 MAXIMUM sign (R6-3) in designated sections. See CVC Section 22406.

02-9 Mandatory Requirement of Accessible Pedestrian Signals

California Traffic Control Devices Committee (CTCDC)

Summary of the Minutes of Sub Committee Meeting Held on March 12, 2003, to Discuss a Mandatory Requirement of an Accessible Pedestrian Signal

Attendees:

In attendance were the Sub-Committee members, special invitees, the California Council of the Blind (CCB) and a group belonging to the National Federation of Blind, State of California (NFBC).

Mandatory Requirement of APS

The representatives from the NFBC strongly opposed a mandatory requirement of an Accessible Pedestrian Signal (APS) system at all signals that have pedestrian signals. Most of the Sub-Committee members were also against the mandatory installation and favored retaining the existing process. Some members suggested having a priority process. The priority process was discussed among Committee members. Gene Lozano, CCB, stated that the consensus is against the mandatory requirement of APSs. He suggested waiting to see the final ruling by the FHWA on the US Access Board's Draft Guidelines for Accessible Public Rights-of-Way

Birdcall vs. New Devices

It appeared that a majority of representatives from the blind community preferred new devices whose capabilities include auditory message or tone output, vibrotactile output, locator tone rather than the existing standard which is a birdcall. Gene Lozano, CCB, stated that the birdcall should be kept as one of the options, because some public agencies have installed them at numerous locations and it would be costly to replace them with other sounds e.g. audible messages.

Priority Guidelines

Develop guidelines with priority a listing of intersections to install audible signals for a new installation and retrofitting of existing signals. John Fisher proposed the priority list should include the following locations:

- Blind centers and senior citizen centers
- T-intersection
- Intersection geometry
- Inclusive signal phases
- Wide intersections
- Actuation of signal phasing
- High speed
- High turning volumes
- Pedestrian collisions
- Transit or major terminals

Conclusion:

The CTCDC should wait for the FHWA's ruling on the "US Access Board's Draft Guidelines for Accessible Public Rights-of-Way," on the issue of a mandatory installation of an APS system. Meanwhile, guidelines should be developed to prioritize APS installations on locations that are frequently used by visually impaired pedestrians (VIP) and by senior citizens. The CTCDC should further find a way to balance uniformity and consistency on the selection of features for audible devices.

03-13 Variable Speed Limit Sign

CITY OF CAMPBELL
Public Works Department

CAMPBELL
1952 The Orchard City 2002

July 29, 2003

California Department of Transportation
Division of Traffic Operations MS 36
P. O. Box 942874
Sacramento, CA 94274-0001

Attn: Executive Secretary CTCDC

Dear Executive Secretary CTCDC:

The City of Campbell Public Works Department is proposing to install a variable speed limit sign manufactured by 3M as an experimental device on eastbound Hamilton Avenue west of Eden Avenue in Campbell.

NATURE OF THE PROBLEM

Hamilton Avenue is a six-lane divided arterial that carries about 38,000 vehicles per day and has a posted speed limit of 35 miles per hour (mph) and an 85th percentile speed of 40 mph. Rosemary Elementary School is located at the northwest corner of Hamilton Avenue/Eden Avenue, a signalized intersection. Students from both Rosemary Elementary School and Campbell Middle School walk across Hamilton Avenue at the Eden Avenue (see Figure 1).

The corridor is signed as a School Speed Zone starting 500 feet from Rosemary Elementary School property as is allowed by the California Vehicle Code. The school warning signs are fluorescent yellow-green. When children are present during school admission and dismissal hours, the speed limit becomes 25 mph. Nevertheless, our Police Department reports that there is low compliance with the School Speed Limit.

PROPOSED CHANGE

A 3M variable speed limit sign will be mounted either on an existing street light pole or on a Type 1-B pole (see Figure 2). The purpose of installing the sign is to improve compliance to the existing School Speed Limit. The sign may be activated by time-of-day program or manually by our school crossing guards to ensure that the sign shows the 25-mph speed limit only during times when children are present. At all other times the sign will display a 35-mph speed limit.

The City is choosing not to install an overhead sign mounted on a mast-arm since the corridor would become too cluttered with overhead equipment. Since Hamilton Avenue has six lanes, attracting motorists' attention to this sign will be a challenge. We are proposing to use a flashing beacon above the sign to attract motorists' attention. Like the variable speed limit sign, the flashing beacon will activated by time-of-day or manually by the school crossing guards.

70 North First Street · Campbell, California 95008-1436 · TEL 408.866.2150 · FAX 408.376.0958 · TDD 408.866.2790

Letter to CTCDC
July 29, 2003
Page 2

SCOPE OF THE EXPERIMENT

The objective of this experiment is to determine if a variable speed limit sign increases compliance to the existing School Speed Limit. The experiment will include the installation of one 3M Variable Speed Limit sign mounted either on an existing street light pole or on a new Type 1-B pole. The proposed location is facing eastbound Hamilton Avenue traffic west of Eden Avenue, a signalized school crosswalk next to Rosemary Elementary School.

WORK PLAN

The proposed plan of the study will include a measure of Before and After travel speeds on Hamilton Avenue. Since it is difficult to measure speeds on multilane streets via machine counters with rubber hoses, the City is proposing to measure speeds via a radar speed survey. Speeds of free-flow vehicles will be measured in order to record an unbiased survey.

Factors held constant include the survey time periods. Hours of surveys will coincide with the presence of school crossing guards (most likely around 7:30-8:00 AM and 2:15-2:45 PM). We are proposing to perform surveys in each month of the school year. The trial period will be at least one year in order to capture both Spring and Fall semester traffic.

Factors to study include Before and After average speeds, 85th percentile speeds, and the pace

The sponsor of the experiment is the City of Campbell. The City will prepare the Before/After study with in-house staff. A final report will be completed within 90 days of the terminal date of experimentation and forwarded to the Executive Secretary of the California Traffic Control Devices Committee (CTCDC).

Administration of the experiment will be performed by the City of Campbell staff. I will serve as principal researcher for this experiment. I am a registered civil and traffic engineer in California and am certified as a professional traffic operations engineer (P.T.O.E.). I have Bachelor's and Master's degrees in Civil Engineering from San Jose State University and have 16 years of experience in traffic engineering. I have been the Traffic Engineer for the City of Campbell since 2000.

If you have any questions, please call me at 408/866-2154.

Sincerely,

Matthew Jue

Matthew Jue, P.E., T.E.
Traffic Engineer

Attachments Figure 1, Project Map
Figure 2, Installation Detail

cc: Captain Dave Dehaan
Tony Rucker

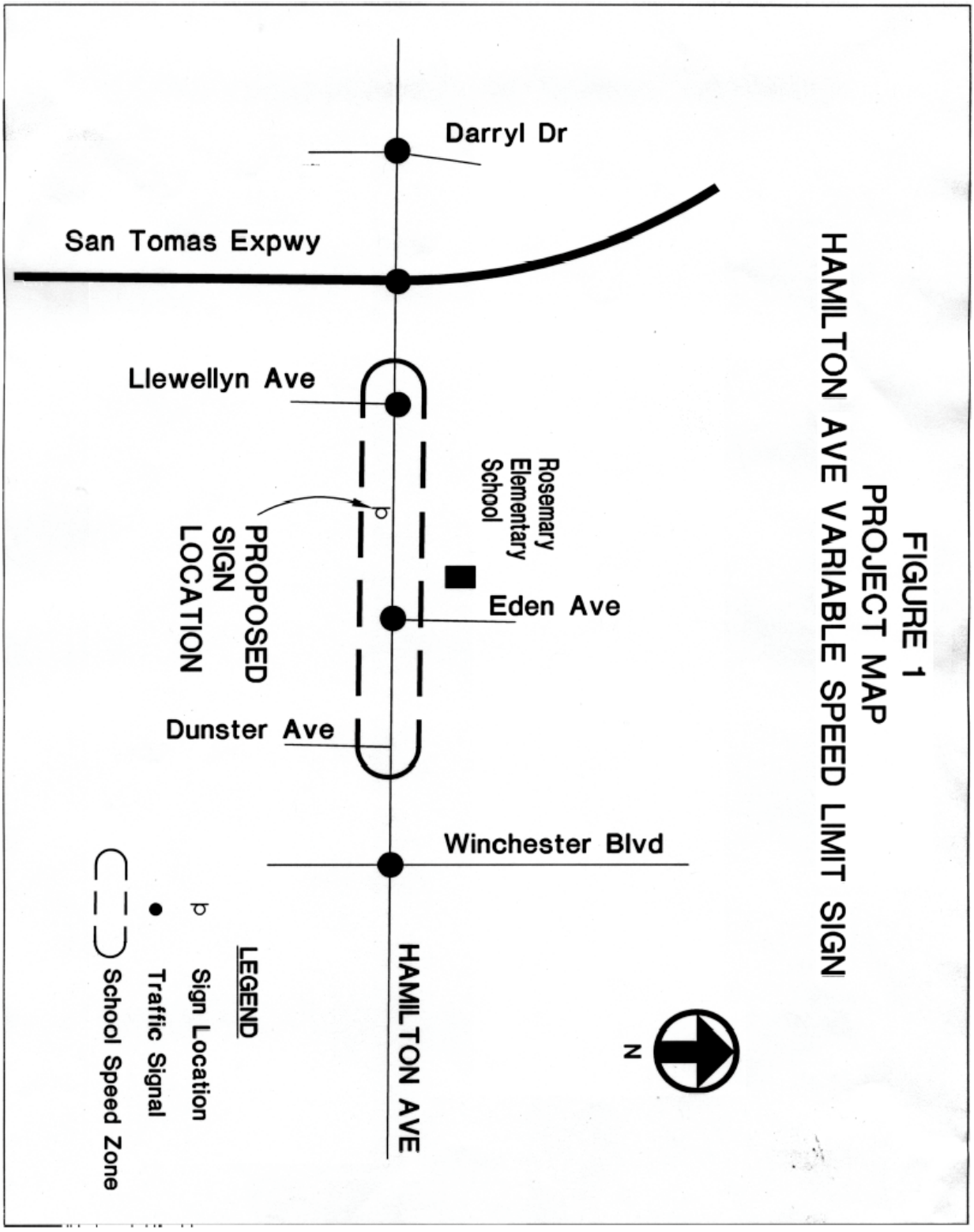


FIGURE 1
PROJECT MAP
HAMILTON AVE VARIABLE SPEED LIMIT SIGN
Darryl Dr
San Tomas Expwy
Llewellyn Ave
Rosemary Elementary School
PROPOSED SIGN LOCATION
Eden Ave
Dunster Ave
Winchester Blvd
HAMILTON AVE
N
LEGEND
Sign Location
Traffic Signal
School Speed Zone

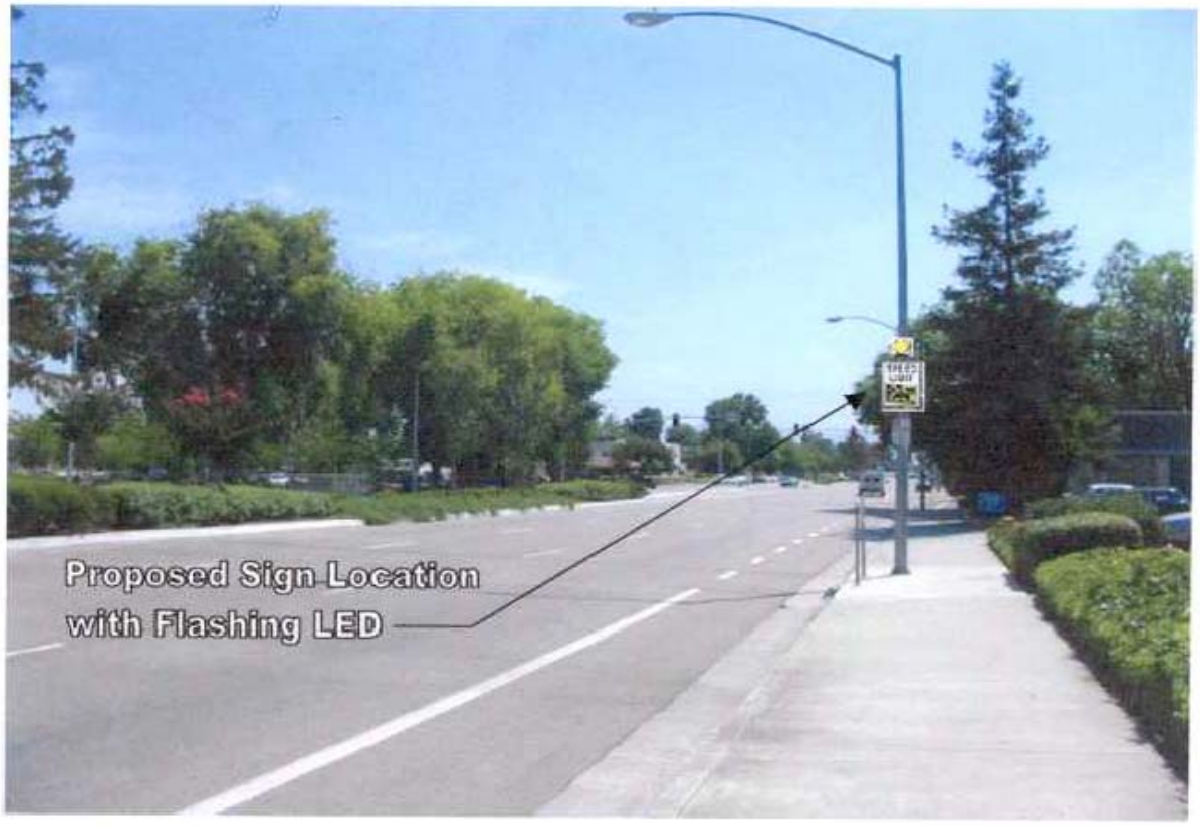


Figure 2: Installation Detail. Eastbound Hamilton Avenue with proposed sign location. Eden Avenue traffic signal in background.

03-14 Exist Numbering on Signalized Intersections Page 1 0f 4

August 4, 2003

Jacob Babico
Chief of the Traffic Division
Public Works Department, Room 115
County of San Bernardino
825 East 3rd Street
San Bernardino, CA 92415

Subject: Proposed Intersection Numbering System along Highway 111

Dear Jacob:

CVAG requests that you serve as sponsor for our proposal to install sequentially numbered signs on poles at each of the signalized intersections along State Highway 111 through the Coachella Valley. Portions of the route are still state right of way but other portions have been relinquished to the adjacent city. However, the entire route is commonly referred to as State Highway 111. Our plan is for the first numbered intersection, Number 1, to be located at the north end of the city of Palm Springs. The numbering sequence would then increase at each signalized intersection along Highway 111 through Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta and, finally, Indio, ending with signalized intersection number 94 (Please see the attached map). The intent of this proposal is to provide a simple method for the many tourists and other visitors to the Coachella Valley to find their way safely and efficiently along the most heavily traveled route through our cities.

The proposal for numbering the intersections was first proposed by the Hospitality Industry and Business Council (HIBC) of the Palm Springs Desert Resorts Convention and Visitors Authority (CVA). The HIBC advocated that sequentially numbered signs placed on traffic signal poles at all signalized intersections along Highway 111 could provide great assistance in directing out-of-town visitors. The effectiveness of such a system would be afforded by the uniformity of size, color, style and consistent location of the signs on traffic signal poles along the route, regardless of the city jurisdiction. Highway 111 and its multiple manifestations (Palm Canyon Drive, East Palm Canyon Drive) is certainly the most connected and continuous, but also one of the most heavily traveled routes for visitors to the Coachella Valley. All of the Coachella Valley's cities with Highway 111 frontage have now likewise embraced the proposal.

A prototype sign was produced in order to present this concept to each of the affected jurisdictions. A photo of the sign is attached. The sign will be 18" by 24", long axis horizontal. The color scheme will be as close as possible to the attached photograph, depending on commercially available materials to duplicate the colors shown. Centered in the sign will be the intersection number; no numbers will be greater than two digit

Should an intermediate signal be installed after the numbering system has been established, the intermediate signal(s) will take on a letter designation in addition to the lower of the bracketing intersection numbers. Therefore a signal between already established signal numbers 56 and 57 would become number 56A. The prototype sign was produced to demonstrate this concept. Two signals approved but not yet installed are shown on the map and will be erected within the next six months. The location for the signs is proposed to be on the signal pole at the far side of the intersection facing on-coming traffic. The sign would be mounted above the mast arm connection and any signal head on the pole. Each intersection would have two such signs, facing opposite directions. Also attached is a photograph of the Highway 111 intersection with Washington Street with the sign electronically added to the signal pole as is proposed.

The tourism industry is an important component of the Coachella Valley's economic base. A great number of tourist destinations are located on or referenced by proximity to Highway 111. As the primary east-west roadway, Highway 111 carries tremendous traffic volumes for a local road. Any improvement that reduces traffic congestion and accidents, and generally contributes to the visitor experience, is important to pursue. By my own experience I can describe the out-of-towner who drives 30 mph in the fast lane looking for a "foreign sounding" street name, slowing at each intersection just in case he needs to make a left there. Picture instead the visitor who is looking for intersection 45 just as he is passing through intersection 16. He knows where he is heading, able to maintain traffic speed until he crosses intersection 44 and needs to change lanes to make that left turn. He doesn't worry about directions except whether he is looking for increasing or decreasing sign numbers. Nor does he worry about which city he is in, the color of the street signs or which way is north. He won't have to worry how you pronounce that odd sounding street name because if he does need directions, he will ask for a number instead.

All of the city jurisdictions with Highway 111 frontage have acknowledged the value of this proposal. All the cities have agreed to participate in this project and on the size, shape, color and location of the directional signs. The cities have likewise agreed to pay for the placement and maintenance of the signs. We are now seeking concurrence from the California Traffic Control Devices Committee.

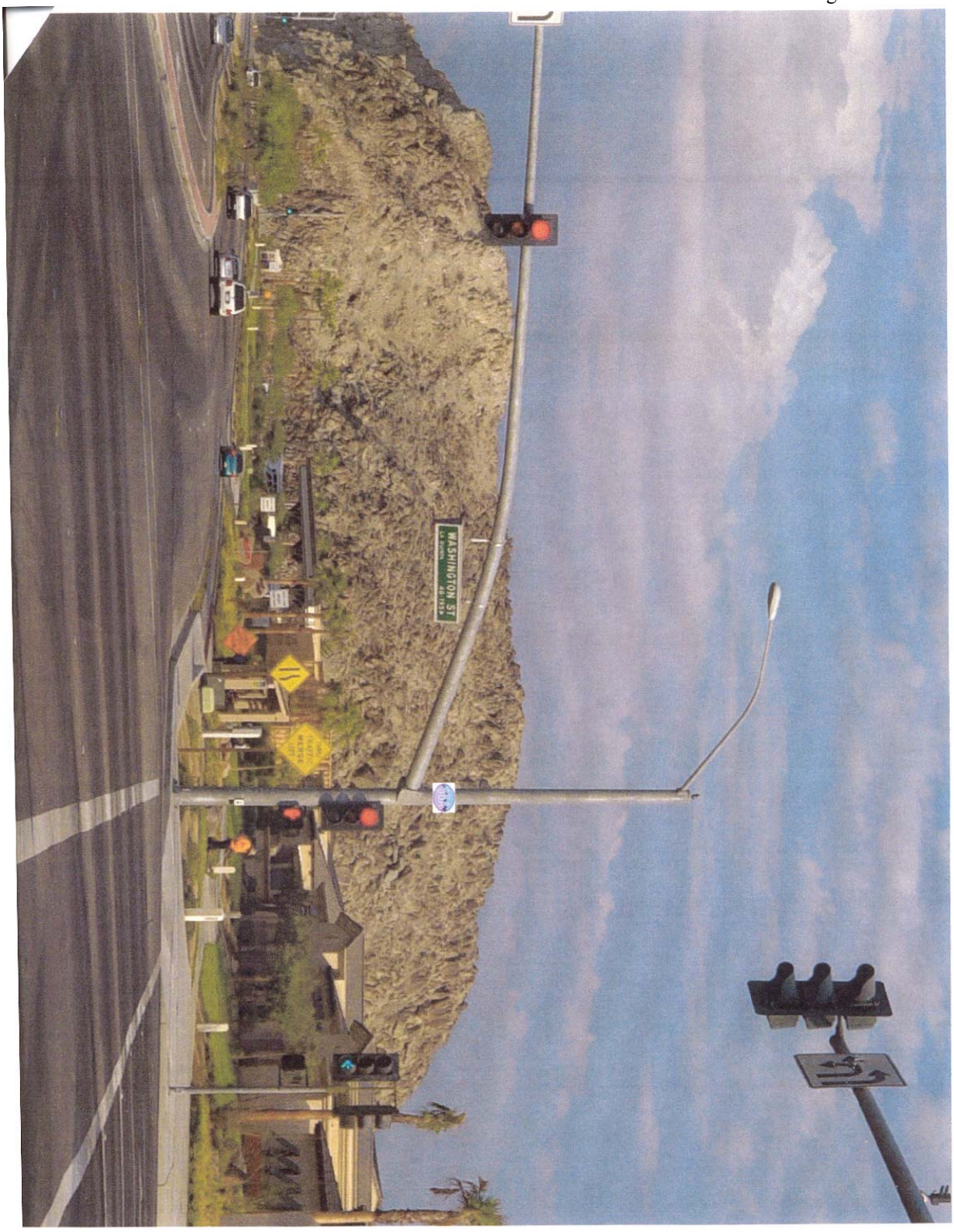
I look forward to your response. Should you have any questions or require additional information, please contact me.

Very truly yours,

Allyn S. Waggle
Deputy Executive Director

xc: Councilmember Terry Henderson, City of La Quinta
Devinder Singh, Caltrans
John Wohlmuth, Executive Director


56A


WASHINGTON ST

03-15 Radar Speed Sign

August 15, 2003

Mr. Devinder Singh
Executive Secretary of the CTCDC
California Department of Transportation
1120 "N" Street MS #36
Sacramento, CA 95814

SUBJECT: Radar Speed Display Signs and Office of Traffic Safety
and Safe Routes to School Grants

Dear Mr. Singh:

The City of Fremont requests consideration to install Radar Speed Display signs for experimental use on five residential streets and streets segments fronting elementary schools. Funding sources for the proposed project are from the City of Fremont's Capital Improvements fund and state grant money received from the Office of Traffic Safety (OTS). Additionally, the City of Fremont has currently applied for the Safe Routes to School Grant for the installation of Radar Speed Display signs on four street segments. In the event that the Safe Routes to School Grant is received, City of Fremont staff is requesting that the Committee authorize experimentation for the Radar Speed Display signs on nine street segments at this time. In the event that funding is not received from the Safe Routes to School Grant, the City of Fremont will inform the Committee and Radar Speed Display signs will be installed on five street segments funded through the awarded Office of Traffic Safety (OTS) grant. Before this project is to proceed, approval by the California Traffic Control Devices Committee is requested.

Four (4) other jurisdictions (San Jose, San Mateo, Vacaville, and Whittier) have either implemented or are in the process of implementing these signs. Attached for your consideration is a copy of the report by the City of San Jose that documents a 5-7 mph reduction in traffic speeds when the sign is operating. This information is submitted as supporting data that the use of the Radar Speed Display signs are an appropriate and beneficial use of this device in the vicinity of schools and residential streets. The City of Fremont plans to install the Radar Speed Display signs on five street segments identified in the City's Traffic Calming Priority list. The prioritized list takes into account crash data, speed data, traffic volume data and complaint data.

Thank you for your consideration of this request. Should you require additional information regarding these signs or the proposed implementation of this device in the City of Fremont, please contact me at (510) 494-4689.

Sincerely,

Sandeep Mangat
Engineer I

cc: Rene Dalton – Associate Transportation Engineer
David Huynh – Senior Transportation Engineer
File Copy – OTS Grant

Proposal to the CTCDC for Request for Experimentation

Radar Speed Display Signs – for September 24, 2003 meeting

I. **Nature of the problem:** From its incorporation in 1956, the City of Fremont has grown from a collection of farm-based communities with a population of about 26,000 to a City of over 208,000 residents, making it the fourth most populous city in the Bay Area and California's fifth largest City on terms of area. While this growth has brought prosperity to the City of Fremont, it has also generated the negative aspects of traffic congestion with an increase in vehicle volume, an increase in vehicle speeds, and an increase in speed-related traffic accidents.

In the past, the City of Fremont and the Fremont Unified School District have taken the responsibility of making necessary improvements at school sites to increase the level of safety for children traveling to and from school. City staff has worked extensively with school district staff, school principals, and Parent Teacher Associations in providing crossing guards and junior safety patrol where necessary. Additionally, Engineering staff has received a "Safe Routes to School" grant for the installation of 20 speed lumps along the frontages of 10 elementary schools in an effort to reduce traffic speeds at elementary school zones.

To address speeding problems on residential streets, the Fremont City Council adopted a Speed Bump Program in 1995. In 2002, the City of Fremont approved a comprehensive Residential Traffic Calming policy incorporating the City of Fremont's Speed Lump program with other traffic calming devices in an effort to reduce traffic speeds on residential streets and on streets fronting schools. By the end of the summer of 2003, the City of Fremont anticipates completion of traffic calming measures, such as speed lumps along the frontages of 23 out of 30 elementary schools.

In January of 2003, the Fremont City Council de-funded the City of Fremont's Residential Traffic Calming Program due to revenue shortfalls. This de-funding of the Traffic Calming Program has prompted City of Fremont staff to look for new, innovative methods to reduce traffic speeds on roadways adjacent to schools and in residential neighborhoods.

II. **Description of the Proposed Change:** In 2001, the Fremont Police Department received an average of 14 requests per month for additional speed radar enforcement from the community, school officials, and Traffic engineering staff. The police radar speed trailer was deployed to different streets throughout the City of Fremont an average of 15 days per month. To promote traffic safety and education, the City of Fremont's Police Department is available on a request basis to provide traffic safety presentations to schools and organizations. However, as with all other programs, the resources that the Police Department has to provide enforcement are also limited. Realizing the limited resources of the Police Department and with the recent de-funding of the Traffic Calming Program, City of Fremont staff has looked for

alternatives to reduce the number of vehicles speeding in school zones and in residential neighborhoods.

The proposed Radar Speed Display sign builds on the success of radar speed trailers that utilize similar technology to inform drivers of their speed as well as the speed limit of the street they are traveling on. The City of San Jose was the first City to install and evaluate the Radar Speed Display signs. The signs are mounted semi-permanently on a street electrolier and display "SPEED LIMT 25" which changes to "YOUR SPEED XX" when motorists are detected to be exceeding the speed limit by more than five miles per hour. Overall, their results so far are encouraging, with a 5-7 mph reduction in speeds when the sign is operating.

Although there are many locations in Fremont with speeding issues, the five street segments (1-2 school frontages and 3-4 residential streets) chosen to install these signs were determined by staff from the Traffic Calming Priority List which takes into account crash data, speed data, traffic volume data, and complaint data.

III. **Illustration or Photographs**: See Attachment A.

IV. **Supporting Data:** In 1999, the City of San Jose was the first City to purchase and evaluate Radar Speed Display signs. After several modifications and attempts to re-design the sign, a design that was satisfactory to the City of San Jose staff was installed in April 2001. Data received from this initial installation was positive and demonstrated a 5-7 mph decrease in vehicle speeds during the times that the signs were operational.

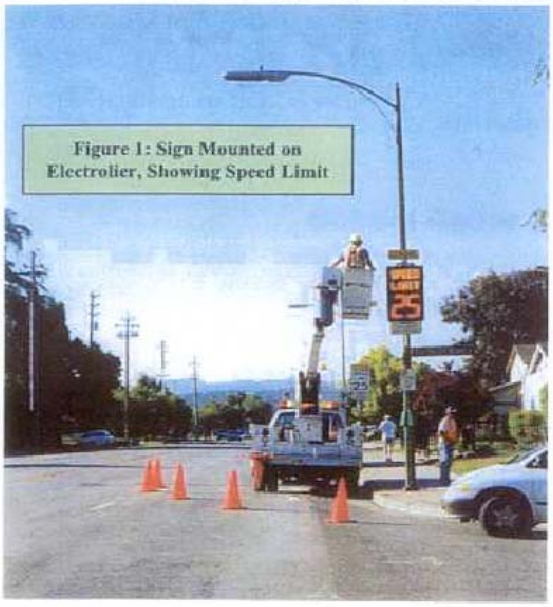
Radar Speed Display signs utilize similar technology to the police radar speed trailers, which have been a visible and effective tool in alerting motorists to their speed. Many motorists cite inattention, habit, or being in a hurry as reasons for their speeding. It has been demonstrated through the police radar speed trailer and the Radar Speed Feedback signs installed in the City of San Jose that many motorists reduce their speed when informed that they are speeding. Unfortunately, not all drivers will slow down even after their speed is displayed to them. Some will continue to speed without the presence of speed limit enforcement. Through coordination with the Fremont Police Department, the recorded speed data from the Radar Speed Display signs will be evaluated and additional police enforcement of the speed limit will be provided at the designated locations during periods with the highest number of speeding violations.

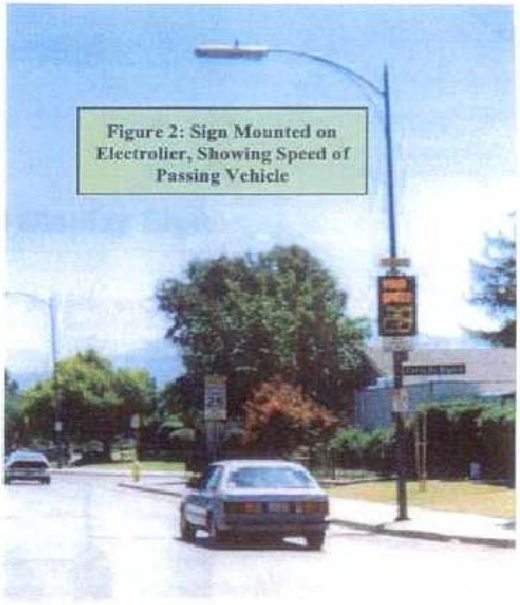
V. **Specific Guidelines for Experimental Proposal**: Speed surveys and volume counts have been performed on each of the five street segments recommended for the installation of Radar Speed Display signs. Accident history for the last three years has been researched and documented for each of the five street segments. Following installation of the Radar Speed Display signs, additional observations will be conducted to document driver behavior when the signs come into view, additional speed surveys will be conducted, and accident data will again be gathered.

All field observations and data gathered after the installation of the Radar Speed Display signs will be documented and compared with data collected before installation to determine effectiveness of signs. The time period of experimentation will be one year from the date of implementation.

RADAR SPEED DISPLAY SIGN INSTALLATION AND OPERATION

Photos of Sign Operation and Installation





INSTALLED RADAR SPEED DISPLAY SIGN'S.

ATTACHMENT A.
PAGE 1.

RADAR SPEED DISPLAY SIGN - MODES OF OPERATION.

1) 2) 3)

DESCRIPTION OF MODES OF OPERATION:

1) *The* **"SPEED LIMIT"** *mode is very similar to the MUTCD No. R2-1 sign. It has a static message (does not change).*

2) *The* **"YOUR SPEED"** *mode displays the vehicle's actual speed! This is accomplished by a built in radar unit and dynamic numeric display. Note: The "YOUR SPEED" portion of the sign is static and does not change. The numeric portion of the sign changes according to the oncoming vehicle's speed.*

3) *The* **"BLANK-OUT"** *mode is designed to be blank or have no message.*

Information Items Page 1 of 2

00-1 Bicycle Pavement Markings

Status of Experiment

Date: August 25, 2003

Item: San Francisco Bicycle Shared Lane Marking Study

Sponsor/Applicant: City of San Francisco Department of Parking and Traffic

Michael Sallaberry
Asst. Transportation Engineer
San Francisco Department of Parking and Traffic
25 Van Ness Avenue, Suite 345
San Francisco, CA 94102
(415) 554 2351
(415) 554 2352 (fax)
Bicycle Hotline (415) 585-BIKE
www.bicycle.sfgov.org

Next Appearance before CTCDC: Sept. 24, 2003

Milestones

- Two additional streets added
- A second marking style (see below) added
- "Before" videotaping completed (analysis to be presented at the Sept 24th CT CDC meeting)
- Markings going on street mid-August
- "After" videotaping and on-street user survey starting late Aug/early Sept (preliminary analysis will be presented Sept 24th)

Status:

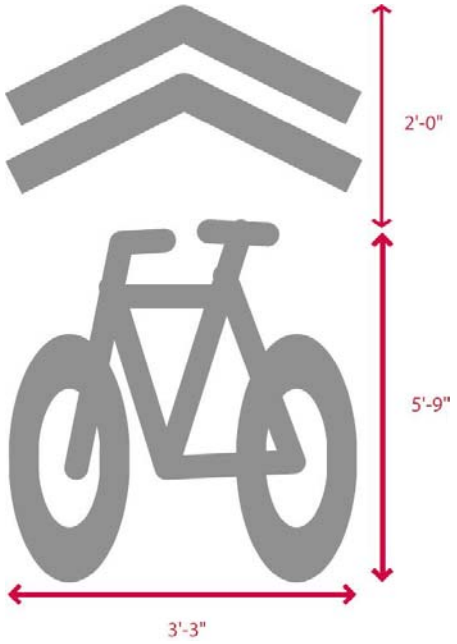
1. **B**ased on the study information and review from San Francisco's Bicycle Plan Update Technical Advisory Committee, the City has decided to study both the bike-in-house (modified as below) and the bike-with-chevron marking. Two additional streets have been selected to allow for better data collection and analysis.

2. The **modified bike-in-a-house** will be as shown below. The dimensions are 42" wide at the arrow points (28" wide at the bottom channel), 75" long. The rider is 28" wide at the wheels and 48" tall. Compared to the original bike-inside-arrow, the bicyclist is twice as large, the overall marking is 3" longer, and the overall width remains the same. In addition, a bike wheel channel has been created at the bottom at the bottom as a visual reminder to encourage cyclists to ride on the arrow. This modified marking allows for comparison with the Florida study on the bike-inside-arrow markings, thus allowing a potentially more compelling case toward State and national adoption of this symbol. In addition, the bike-inside-arrow marking is increasingly being used in other locales throughout the Bay Area, thus allowing for potentially better consistency and recognition.

3. The **bike-with-chevron** marking is as shown below.

4. The project team recognizes that if the budget and timeframe allowed, the ideal would be to study numerous marking style variations in the field. Should the in-field video study and cyclist survey show the marking is poorly understood, then further modifications or study will be undertaken. The need for an education/outreach campaign will be determined based on the results of the study.

Modified bike-inside-house marking



Bike-with-chevron marking